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November 24, 1997 PY-CEI/NRR-2238L

Unit a States Nuclear Regulatory Commission Document Control Desk Washington, DC 20555

Perry Nuclear Power Plant Docket No. 50-440 Reply to a Notice of Violation

Ladies and Gentlemen:

Enclosed is the reply to the Notice of Violation contained in NRC Inspection Report 50-440/9700 for the Perry Nuclear Power Plant (PNPP), which was transmitted by letter dated October 24, 1997.

The Notice of Violation included three examples of inappropriate procedures or instructions. Please note that the enclosed violation response contests two of the three examples cited in the Notice of Violation. The NRC recognized that neither of the examples resulted in a direct degradation of plant safety or was indicative of a programmatic breal down. The basis for disputing each of the two examples is provided in the Enclosure.

Also note that, in the examples where the Notice of Violation is contested, PNPP recognizes the need for improvement in the areas identified. As such, actions to address the underlying weaknesses for each of the contested violations have already been taken, as described in the Enclosure.

If you have questions or require additional information, please contact Mr. Henry L. Hegrat, Manager - Regulatory Affairs, at (440) 280-5606.

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Enclosure

cc: NRC Region III Administrator NRC Resident Inspector NRC Project Manager



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REPLY TO A NOTICE OF VIOLATION

VIOLATION 97007-01

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Restatement of the Violation

During an NRC inspection conducted from May 3 through June 23, 1997, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy at d Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, the violation is set forth below:

Perry Nuclear Power Plant, Unit 1 Technical Specification (TS) 5.4.1.a. requires that written procedures be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A, February 1978.

 Regulatory Guide 1.33, Revision 2, Appendix A, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors," states, in part, that procedures should be established for combating loss of electrical power (Section 6.c.).

Combating the loss of electrical power includes complying with the basis for Technical Specification 3.3.1.2, "Source Range Monitor (SRM) Instrumentation," Condition D, when electric power is lost to the SRM drive system with the SRMs not fully inserted. The basis states that the mode switch shall be locked.

Contrary to the above, on June 5, 1997, there was no procedure established to combat a loss of electric power to the SRM drive system, in that there was no procedure directing that the mode switch be locked in the shutdown position.

 Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors," states, in part, that procedures should be implemented for tagging (Section I.c.) and for obtaining per:nission and clearance for personnel to work on plant equipment (Section 9.e.).

Plant Administrative Procedure (PAP) 1401, "Safety Tagging," had been established and met the requirements of RG 1.33. Step 6.7.3. of PAP 1401 requires that prior to performing the activity for which safety tags are placed, the Person-in-Charge, who is responsible for the associated activity, shall ensure that a walkdown is conducted of the work area and of the appropriate red-tagged boundaries. Step 6.7.4. of PAP 1401 further requires verification that the tag-out has been properly signed on as part of the walkdown. Removing valve R44-F0528B from service on June 2, 1997, was an activity for which placement of safety tags was required.

Contrary to the above, removal of valve R44-F0528B from its in-line position was completed before a walkdown verified that the associated tag-out had been properly signed on.

c. Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors," stated in part that procedures should be established for performing maintenance (Section 9) that can affect the performance of safety-related equipment and that maintenance should be preplanned and performed with documented instructions appropriate to the circumstances. Tests of safety-related emergency closed cooling valves, controlled by Work Orders (WO) 97-1787 and 97-1791 and conducted on June 10, 1997, were maintenance activities.

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Contrary to the above, Work Orders (WO) 97-1787 and 97-1791 were documented instructions that were not appropriate to the circumstances, in that the WOs did not include appropriate direction or guidance to ensure that the unusually low expected leakage rates would not be masked by test conditions.

This is a Severity Level IV violation (Supplement 1).

VIOLATION 97007-01a

This example of the violation is being contested.

On June 5,1997, following an automatic reactor shutdown caused by an electrical fault in the unit auxiliary transformer, the control room operators noted that the source range neutron monitors could not be inserted into the reactor core because the nonsafety drive power had been lost as a result of the transformer fault. While implementing recovery procedures, Perry Nuclear Power Plant (PNPP) Operations personnel later identified that the Reactor Mode Switch had been placed in the correct position within the time required; however, it had not been locked as required by the Technical Specifications (TS) Bases. The NRC determined that the TS Bases requirement to lock the Reactor Mode Switch had not been incorporated in an operating procedure or instruction and cited the violation in its inspection report.

Basis for Disputing the Violation

This example of a violation of administrative TS 5.4.1.a. is being contested because appropriate procedural guidance was in place to combat a loss of electrical power to the Source Range Monitor (SRM) drive system. During the event on June 5, 1997, operator response to the loss of electrical power to the SRM drive system did not meet management expectations, since the control room operators did not follow a requirement contained in the Bases for TS Limiting Condition. for Operation (LCO) 3.3.1.2 ACTIONS D.1 and D.2 to lock the Reactor Mode Switch in SHUTDOW⁵.

At PNPP, equipment is operated in accordance with written, approved procedures. These include a variety of procedures/instructions, the TS and the Bases, the Operational Requirements Manual (ORM), and the Offsite Dose Calculation Manual (ODCM). Off-Normal Instructions (ONIs) are event based instructions that provide the qualified operator with direction in dealing with non-emergency, abnormal plant situations. ONIs are written to provide direction when the plant situation involves or requires operation of multiple plant systems. During the event on June 5, 1997, operators were responding to a turbine trip/reactor scram in conjunction with a loss of electrical power to nonsafety bus L11 and a fire on the auxiliary transformer. Proper ONIs were utilized to respond to those conditions.

One of the immediate actions in ONI-C71-1, "Reactor Scram (Unit 1)" was to place the Reactor Mode Switch in the "SHUTDOWN" position. Supplemental actions included inserting the SRM and Intermediate Range Monitor (IRM) detectors and verifying that all control rods were fully inserted into the core. When the operators attempted to insert the SRM and IRM detectors and the detectors could not be inserted due to the loss of electrical power to bus L11, the operators referenced TS LCO 3.3.1.2 to take the appropriate actions. The operators noted that the TS required actions were taken to fully insert all insertable control rods and place the Reactor Mode Switch in the SHUTDOWN position within one hour. However, they did not refer to the appropriate TS Bases which contained the requirement to lock the Reactor Mode Switch. Operators later reviewed the TS Bases and realized that they had missed the one hour requirement to lock the Reactor Mode Switch.

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Electrical power to bus L11 was restored in accordance with appropriate procedures. As stated in
Regulatory Guide 1.33, Revision 2, February 1978, C. Regulatory Position 1., "... The procedures listed in Appendix A may be combined, separated, or deleted to conform to the applicant's procedures plan." The PNPP procedures plan is devised to ensure that activities are performed in the proper sequence and priority to ensure the safe operation of the plant. The procedural structure for responding to events at PNPP is sound.

The Bases were greatly expanded during the Improved Technical Specification (ITS) conversion process. Numerous details were relocated from the TS to other specific documents. During the conversion process, the NRC staff specified that these relocated items be placed in certain documents such as the TS Bases, the Updated Safety Analysis Report (USAR), the ORM, or the ODCM. The need to lock the mode switch was one of the details relocated to the TS Bases.

The licensed operators are trained to read and take actions stated in the Bases as part of complying with a TS. The clear expectation impressed upon the operators in the training is that the Bases are to be read and followed. Therefore, there is no need for additional procedures or instruction to direct the same activities already specified in the TS Bases. In the same manner that the TS and Required Actions are not directed by separate procedures, actions specified in the TS Bases are expected to be completed without separate procedures/instructions.

In the case discussed in this example, the operator did not read and follow the Bases when carrying out the TS actions. Had the operator read the Bases along with the TS actions as expected, the Reactor Mode Switch would have been locked. A Bases change has been approved which clarifies that locking the Reactor Mode Switch is not a requirement, but should be performed to assure the Reactor Mode Switch will remain in the shutdown position. Additionally, this event has been added to licensed operator training to emphasize that the TS Bases must be consulted when invoking TS LCO requirements.

PNPP has been in full compliance.

VIOLATION 37007-01b

This example of the violation is accepted as written. A PNPP maintenance supervisor identified that an individual failed to verify the placement of a required personnel safety tag before removing a non-safety-related valve from service. The associated system was out-of-service for other scheduled maintenance at the time.

An appropriate safety tag-out document had been prepared for the scheduled replacement of the valve, but the maintenance worker had not verified that the tags had been placed. It is each worker's responsibility to ensure safety tags are properly placed before starting work. Perry Administrative Procedure (PAP)-1401, "Safety Tagging," requires that prior to performing the activity for which safety tags are placed, the Person-in-Charge, who is responsible for the associated activity, shall ensure that a walkdown is conducted of the work area and of the appropriate red-tagged boundaries. PAP-1401 further requires verification that the tag-out has been properly signed on as part of the walkdown. The NRC determined that removing valve R44-F0528B from its in-line position on June 2, 1997, was an activity for which placement of safety tags was required and that the activity was performed before a walkdown verified that the tag-out had been properly signed on. The NRC noted that plant management recognized the significance of the error and had promptly categorized the associated PIF as significant to ensure that it received a detailed investigation.

In the NRC inspection report, the NRC recognized that the error was isolated and promptly given appropriate management attention; however, the NRC concluded corrective action to prevent recurrence had not been planned or completed by the end of the inspection period. Therefore, the NRC concluded, the violation did

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not meet the criteria for a Non-Cited Violation established in Section VII.B.1 of the NRC Enforcement * Policy. PNPP corrective actions have been completed.

Reason for the Violation

The root cause of this event was determined to be personnel error in that the methods used by a maintenance supervisor were not adequate to control the assigned work activity. The supervisor became too focused on completion of the job and failed to appropriately question and self-check his actions. This resulted in allowing field work activities to begin even though authorization had only been granted to begin prefabrication activities in the maintenance shop. In particular, the supervisor received the work order from the supervisor on the preceding shift with the impression that the field work had been authorized but did not check the package to verify this. The supervisor also assumed that the required safety tag-out had been hung based on an annotated schedule which indicated other work needing the same tag-out had been completed. This assumption was in error because it had been determined the other work did not require the safety tag-out. Also, by making this assumption, the maintenance supervisor failed to meet the requirements of PAP-1401 to verify by walkdown the safety tags for this work had been hung. As a contributing cause, the field mechanic assigned to perform the work did not adequately review the package; it would have been evident through such a review that the tag-out had not been hung and that field work had not been authorized.

Corrective Steps Taken and Results Achieved

The supervisor stopped e job and documented the error with a Potential Issue Form.

The supervisor and mechanic responsible for this event discussed the event and circumstances during a unit meeting specifically emphasizing the importance of reevaluating an activity when the assumptions or scope of the activity have changed, and performing a thorough review of the work package prior to starting work with particular attention to the 'work start approval' block on the work order.

Additionally, the importance of safety tagging in general was discussed and the importance of good turnovers expressed.

Corrective Steps that Will be Taken to Avoid Further Violations

No further corrective actions are necessary.

Date When Full Compliance Was Achieved

Full compliance was achieved on June 2, 1997, when the Person-in-Charge for this work signed on to the tag-out and subsequent valve repair and reinstallation was completed.

VIOLATION 97007-01c

This example of the violation is being contested.

The NRC concluded that a third example of inappropriate procedures or instructions involved NRC identification that a test procedure (i.e., work order) for leak testing emergency closed cooling (ECC) system valves was not appropriate for the circumstances.

The design of the ECC system did not facilitate in situ testing of the boundary valves between ECC and the non-safety-related nuclear closed cooling (NCC) system. Per the Work Order (WO), each valve was

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removed and bench tested to identify any potential gross leakage paths. Subsequently, Periodic Test Instruction (PTI)-P42-P0010 and PTI-P42-P0011 were performed which verified that leakage from each ECC train was less than 0.5 gallons per hour (gph), the normal system leakage described in the USAR.

The NRC reviewed the WOs for the informational tests and observed that there was no direction or guidance that addressed the identified testing concerns. The NRC inspectors determined that the tests of safety-related ECC valves, controlled by WOs 97-1787 and 97-1791, were maintenance activities. The NRC concluded that the WOs were documented instructions that were not appropriate to the circumstances because the WOs did not include any direction or guidance to ensure that the low expected leakage rates were not masked by test conditions. The failure to provide instructions appropriate to the circumstances was considered an example of a violation of TS 5.4.1.a.

The NRC observed the system total leakage verification activity PTI-P42-P0010 and P0011. Visual inspections of the ECC system for external leaks were performed. Minimal leakage was identified, which, as the NRC noted, was consistent with the system total leakage verification PTIs.

Basis for Disputing the Violation

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Because of the configuration and function of the ECC/NCC boundary valves, and the lack of testability, the Inservice Testing Program assigns total loop leakage as the acceptance criteria for these valves to comply with the American Society of Machanical Engineers Boiler and Pressure Vessel Code.

This example of the violation is being contested because the work orders discussed above were for predictive, informational tests only. The tests were intended to identify major contributors to total system leakage prior to running the lengthy PTIs. The PTIs were used to demonstrate acceptable total system leakage, and therefore, acceptable valve leakage. The leakage data developed by the work order activities was not included in the total system leakage.

PAP-0905, "Work Order Process," defines a *Work Order* as "the document used to control work and testing in the plant under the scope of this procedure." The procedure also defines *work order instruction* as instructions "used in conjunction with a Work Order to assist individuals in performance of a task. The level of detail is based on the complexity of the task, special engineering considerations/specifications, and skill levels of the workers performing the task (skill-of-the-craft) unlike Maintenance Instructions which provide step-by-step methods to ensure consistent performance of a specific activity." *Skill-of-the-craft* is defined, in part, as "work skills that should be common knowledge to the individuals performing the work. Plant employees are formally trained, by means of an accredited on-the-job training program, and qualified to perform these skills." In this particular case, for the predictive informational gross leakage testing, the content of the work order was appropriate.

Although previously discounted by the system test engineer, the NRC test methodology concerns were explored during the informational tests and were confirmed not to be a contributor which could have impacted the gross leakage measurements.

Therefore, full compliance has been maintained. This was further demonstrated with the completion of the PTIs on June 16-17, 1997.

Actions discussed in this document represent intended or planned actions, are described for the NRC's information, and are not considered to be regulatory commitments.